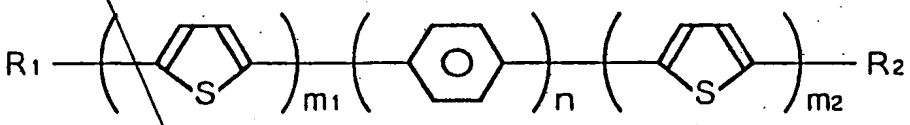
What IS CLAIMED IS:

1. A molecular compound having the following molecular structure:

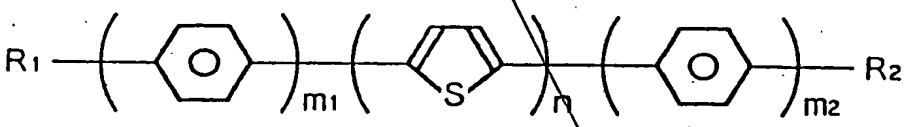
[Compound 1]




wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and m1, m2 and n are 1 or more; provided that at least one of m1 and m2 is 2 or more when n is 1 or 2, and m1 and m2 are 1 or more when n is 3 or more.

2. A molecular compound having the following molecular structure:

[Compound 2]

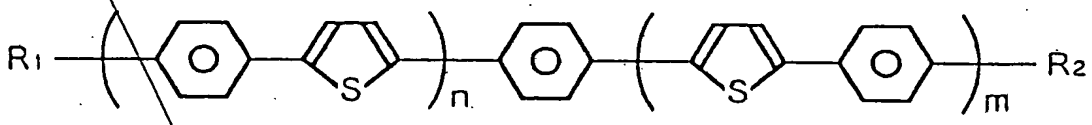



wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and m1, m2 and n are 1 or more; provided that at least one of m1 and m2 is 2 or more when n is 1 or 2, and m1 and m2 are 1

or more when n is 3 or more.

3. A molecular compound having the following molecular structure:

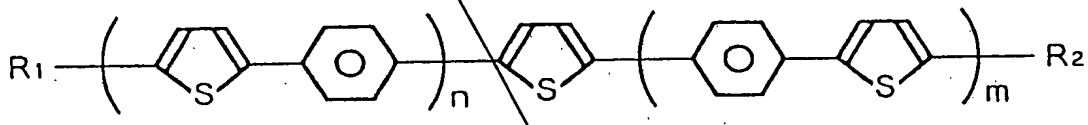
[Compound 3]



wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n and m are 1 or more.

4. A molecular compound having the following molecular structure:

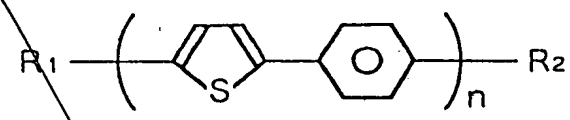
[Compound 4]



wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n and m are 1 or more.

5. A molecular compound having the following molecular structure:

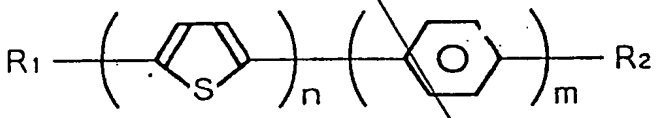
[Compound 5]



wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n is 2 or more.

6. A molecular compound having the following molecular structure:

[Compound 6]



wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and at least one of n and m is 2 or more.

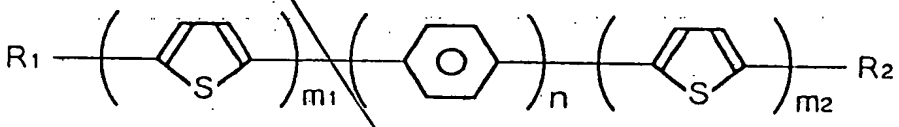
7. A luminous material comprising a molecular compound having a molecular structure wherein a thiophene ring and a benzene ring are directly bonded to each other.

8. A luminous material according to claim 7, wherein the number of the thiophene ring and the benzene ring and the bonding order of the rings are changed to control its luminous color.

9. A luminous material according to claim 7 or 8, wherein the bonding order of the thiophene ring and the benzene ring is determined to arrange both the rings alternately.

10. A luminous material using a molecular compound having the following molecular structure:

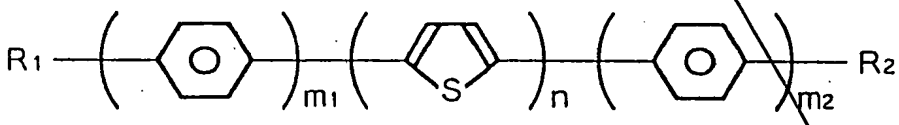
[Compound 7]




wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n, m1 and m2 are 1 or more.

11. A luminous material using a molecular compound having the following molecular structure:

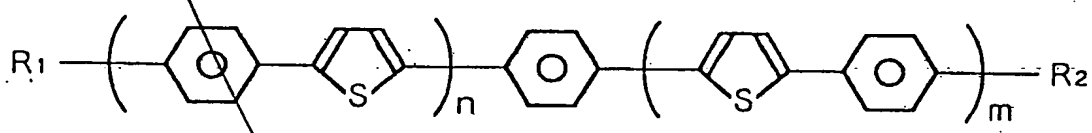
[Compound 8]




wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n, m1 and m2 are 1 or more.

12. A luminous material using a molecular compound having the following molecular structure:

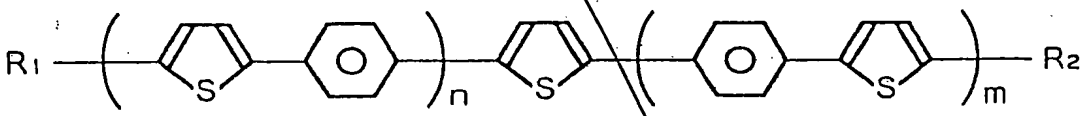
[Compound 9]




wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n and m are 1 or more.

13. A luminous material using a molecular compound having the following molecular structure:

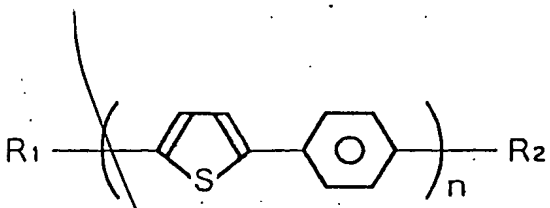
[Compound 10]




wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n and m are 1 or more.

14. A luminous material using a molecular compound having the following molecular structure:

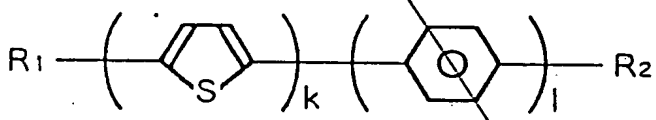
[Compound 11]



wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and n is 1 or more.

15. A luminous material using a molecular compound having the following molecular structure:

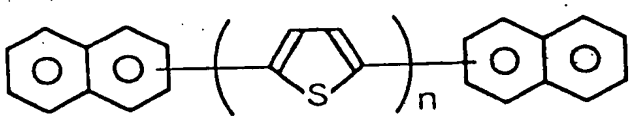
[Compound 12]



wherein R1 and R2 each independently represents any one of hydrogen, an alkyl group, an alkenyl group and a halogen; and at least one of k and 1 is 2 or more.

16. A molecular compound having the following molecular structure.

[Compound 13]



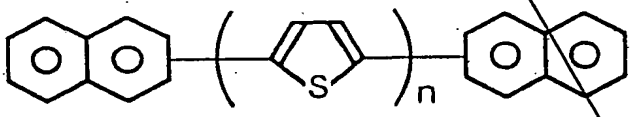
wherein n is 1 or more.

17. A luminous material comprising a molecular compound having a molecular structure wherein a thiophen ring and a naphthalene ring are directly bonded each other.

18. A luminous material according to claim 17, wherein the number of the thiophen ring and the naphthalene ring and the bonding order of the rings are changed to control its luminous color.

19. A luminous compound using a molecular compound having the following molecular structure.

[Compound 14]




wherein n is 1 or more.

20. A luminous material comprising any combination of two or more kinds of the luminous materials according to claims 10 - 15, and 19.

21. An organic electroluminesence element having at least a luminous layer sandwiched between a pair of electrodes,

wherein the luminous layer comprises one or more molecular compounds according to claims 1 - 6 and 16.

22. An organic electroluminesence element having at least a luminous layer sandwiched between a pair of electrodes, wherein the luminous layer comprises a complex of one or more molecular compounds according to claims 1 - 6 and 16, and a molecular compound other than these molecular compounds.